

**What is Claimed:**Sub  
Q1

1. A radio link protocol framing system located in a mobile wireless station set for providing said mobile wireless station set with high speed data transmission capability by using at least one of the dedicated control channel and the Supplementary channel of the radio link that interconnects said mobile wireless station set with a digital cellular mobile telecommunication network, comprising:

means, responsive to a subscriber at said mobile wireless station set requesting a data communication service, for storing data generated by terminal equipment at said mobile wireless station set;

means for segmenting said data in at least one core unit, each core unit exclusively comprising a payload of predetermined size;

means for selecting at least one of said dedicated control channel and said Supplementary channel of said radio link to transmit said data to said digital cellular mobile telecommunication network; and

means for packaging said at least one core unit into a radio link protocol to transmit said data to said digital cellular mobile telecommunication network via said selected at least one of said dedicated control channel and said Supplementary channel of said radio link.

2. The radio link protocol framing system of claim 1 wherein said means for formatting comprises:

means for selecting a single one of said core units; and

means for prepending a header to said selected core unit, said header including: a sequence number, a payload length.

3. The radio link protocol framing system of claim 2 wherein said means

for formatting further comprises:

means for including a field in said header that indicates the content of said radio link protocol is for said dedicated control channel of said radio link.

5           4.     The radio link protocol framing system of claim 1 wherein said means for formatting comprises:

means for concatenating a plurality of said core units;

means for prepending a header to said concatenated core units, said header including: a sequence number, a payload length.

10           5.     The radio link protocol framing system of claim 4 wherein said means for formatting further comprises:

means for including a field in said header that indicates the content of said radio link protocol is for said Supplementary channel of said radio link.

15           6.     The radio link protocol framing system of claim 5 wherein said means for formatting further comprises:

means for selecting a single one of said core units;

20           means for prepending a header to said selected core unit, said header including: a sequence number, a payload length; and

means for appending said header and said selected core unit to said concatenated core units.

25           Sub 7.     A method for providing a mobile wireless station set with high speed data transmission capability by using at least one of the dedicated control channel and the Supplementary channel of a radio link that interconnects said mobile wireless station set with a digital cellular mobile telecommunication network, comprising the steps of:

storing in a memory, in response to a subscriber at said mobile wireless station set requesting a data communication service, data generated by terminal equipment at said mobile wireless station set;

segmenting said data in at least one core unit, each core unit exclusively comprising a payload of predetermined size;

selecting at least one of said dedicated control channel and said Supplementary channel of said radio link to transmit said data to said digital cellular mobile telecommunication network; and

packaging said at least one core unit into a radio link protocol to transmit said data to said digital cellular mobile telecommunication network via said selected at least one of said dedicated control channel and said Supplementary channel of said radio link.

8. The method for providing a mobile wireless station set with high speed data transmission capability of claim 7 wherein said step of formatting comprises:

selecting a single one of said core units; and

prepending a header to said selected core unit, said header including: a sequence number, a payload length.

9. The method for providing a mobile wireless station set with high speed data transmission capability of claim 8 wherein said step of formatting further comprises:

including a field in said header that indicates the content of said radio link protocol is for said dedicated control channel of said radio link.

10. The method for providing a mobile wireless station set with high speed data transmission capability of claim 7 wherein said step of formatting comprises:

concatenating a plurality of said core units;  
prepending a header to said concatenated core units, said header including:  
a sequence number, a payload length.

5           11.    The method for providing a mobile wireless station set with high speed  
data transmission capability of claim 10 wherein said step of formatting further  
comprises:

including a field in said header that indicates the content of said radio link  
protocol is for said Supplementary channel of said radio link.

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12.    The method for providing a mobile wireless station set with high speed  
data transmission capability of claim 11 wherein said step of formatting further  
comprises:

selecting a single one of said core units;

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prepending a header to said selected core unit, said header including: a  
sequence number, a payload length; and

appending said header and said selected core unit to said concatenated core  
units.